# Correlated Equilibrium: Intuition

Game Theory Course:
Jackson, Leyton-Brown & Shoham

# Examples

- Consider again Battle of the Sexes.
    - Intuitively, the best outcome seems a 50-50 split between $(F,F)$, $(B,B)$.
    - But there's no way to achieve this, so either someone loses out (unfair) or both players often miscoordinate

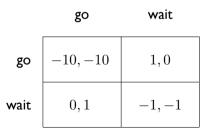|       | B       | F       |
|-------|---------|---------|
| **B** | 2, 1    | 0, 0    |
| **F** | 0, 0    | 1, 2    |

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|   | B | F |
|---|---|---|
| B | 2, 1 | 0, 0 |
| F | 0, 0 | 1, 2 |

- Another example: Traffic Game

|   | go | wait |
|---|---|---|
| go | −10, −10 | 1, 0 |
| wait | 0, 1 | −1, −1 |

# Intuition

Game Theory Online

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- Benefits:
  - the negative payoff outcomes are completely avoided
  - fairness is achieved
  - the sum of social welfare can exceed that of any Nash equilibrium

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- Correlated Equilibrium (informal): a randomized assignment of (potentially correlated) action recommendations to agents, such that nobody wants to deviate.